

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

17 DEC 2004

Applicant's or agent's file reference PC/GW/P12895PC	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/GB 03/02613	International filing date (day/month/year) 18/06/2003	(Earliest) Priority Date (day/month/year) 18/06/2002
Applicant UNIVERSITY COURT OF THE UNIVERSITY OF DUNDEE		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 8 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☒ **Certain claims were found unsearchable** (See Box I).

3. ☒ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☐ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

☒ None of the figures.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/GB 03/02613

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☒ Claims Nos.: -
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-19

A method of forming metal deposit on a substrate comprising irradiating a photosensitive organometallic compound with UV radiation and reducing the irradiated compound to form metal deposits adhered to the substrate. The metal deposits obtainable thereof.

2. Claims: 20-40

A photosensitive organometallic compound and a process for producing it

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.2

Present claim 20 relate to an extremely large number of possible compounds. Support within the meaning of Article 6 PCT and/or disclosure within the meaning of Article 5 PCT is to be found, however, for only a very small proportion of the compounds claimed. In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible. Consequently, the search has been carried out for those parts of the claims which appear to be supported and disclosed, namely those parts relating to the compounds of formula (I), where M is any of the metals listed in claim 20, A is oxygen or sulfur, X is 0 or 1, R is a fluoroorgano group of 1-12 carbon atoms, L is cyclooctatetraene or cyclooctadiene.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 03/02613

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C23C18/08 C23C18/14 C23C18/06 H05K3/10 C07F15/00
C07F1/08 C07F1/10 C07F1/12 C07F9/00 C07F11/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C23C H05K C07F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, INSPEC, CHEM ABS Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 493 709 A (ABB PATENT GMBH) 8 July 1992 (1992-07-08)	17-19
Y	claims	1,3,8,9, 12-14
X	FR 2 643 775 A (COTTE MARIE THERESE ; RAMY JEAN PIERRE (FR)) 31 August 1990 (1990-08-31)	17-19
Y	claims	1,3,8,9, 12-14
A	EP 0 391 314 A (MATSUSHITA ELECTRIC IND CO LTD) 10 October 1990 (1990-10-10) the whole document	1-19

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- "&" document member of the same patent family

Date of the actual completion of the international search

26 January 2004

Date of mailing of the international search report

15.02.04

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Brisson, O

INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 03/02613

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 96 29726 A (MATSUSHITA ELECTRONICS CORP ; SYMETRIX CORP (US)) 26 September 1996 (1996-09-26) the whole document	1-19
X	--- CLARK, H. C. ET AL: "Reactions of (.pi.-1,5-cyclooctadiene)organoplatinum(II)) compounds and th synthesis of perfluoroalkylplatinum complexes" JOURNAL OF ORGANOMETALLIC CHEMISTRY (1973), 59, 411-28 , XP002268048 abstract page 426 page 421	20-40
X	--- YANG, DONG SHENG ET AL: "Electronic structure of square-planar cis-bis(trifluoromethyl)platinum(II) complexes from UV photoelectron spectra and SCF-MS-X.alpha. calculations" INORGANIC CHEMISTRY (1990), 29(13), 2496-501 , XP002268049 paragraph [EXPERIMENTAL]	20-40
X	--- US 4 530 879 A (DRAHNAK, TIMOTHY J.) 23 July 1985 (1985-07-23) column 4, line 8-57	20-28
X	--- DEACON, G. B. ET AL: "Preparation and ligand displacement reactions of diene(polyfluorophenyl)platinum(II) complexes" JOURNAL OF ORGANOMETALLIC CHEMISTRY (1987), 322(2), 257-68 , XP002268050 abstract	20-27
X	--- KING, R. B. ET AL: "Organosulfur derivatives of the metal carbonyls. XIV. Reactions of trifluoromethylthiosilver with certain norbornadiene and tetraphenylcyclobutadienemetal complexes" INORGANIC CHEMISTRY, vol. 10, no. 7, 1971, pages 1376-1379, XP002268051 the whole document --- -/--	20-27

INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 03/02613

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GARCIA, J. ET AL: "Homoleptic binuclear platinum compounds with C6F5S- and C6HF4S-" INORGANICA CHIMICA ACTA (1993), 207(1), 93-6 , XP002268052 page 93 -page 94 ---	20-27
X	RIVERA, GUILLERMINA ET AL: "Dynamic Study of Homoleptic Bimetallic Platinum(II) Complexes Bridged by Fluorinated Benzenethiolates" INORGANIC CHEMISTRY (2001), 40(22), 5575-5580 , XP002268053 page 5576 -page 5577 ---	20-27
X	BRUNE, HANS ALBERT ET AL: "Photochemical reactivity of substituted [.eta.2-bis(diphenylstibino)methane]bis(phenyl)platinum(II) compounds" JOURNAL OF ORGANOMETALLIC CHEMISTRY (1989), 371(1), 113-20 , XP002268054 page 118, paragraph SYNTHESIN ---	20-26
X	CHAUDHURY, N. ET AL: "Preparation and electronic spectra of some alkyl- and aryl(2,2'- bipyridine)platinum(II) complexes" JOURNAL OF ORGANOMETALLIC CHEMISTRY (1975), 84(1), 105-15 , XP002268055 the whole document ---	20-25
X	ESPINET, P. ET AL: "3,5-dichlorotrifluorophenyl complexes, aryl derivatives with simple ¹⁹ F NMR structural probes. The synthesis of general precursors for Pd- and Pt complexes" JOURNAL OF ORGANOMETALLIC CHEMISTRY, vol. 551, 1998, pages 9-20, XP002268056 the whole document -----	20-25

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB 03/02613

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 0493709	A	08-07-1992	DE 4042220 A1	02-07-1992
			EP 0493709 A2	08-07-1992
			JP 2065945 C	24-06-1996
			JP 4362178 A	15-12-1992
			JP 7100868 B	01-11-1995
FR 2643775	A	31-08-1990	FR 2643775 A1	31-08-1990
EP 0391314	A	10-10-1990	JP 2264254 A	29-10-1990
			JP 2538043 B2	25-09-1996
			DE 69015857 D1	23-02-1995
			DE 69015857 T2	24-05-1995
			EP 0391314 A2	10-10-1990
			KR 9302698 B1	07-04-1993
			US 5173330 A	22-12-1992
WO 9629726	A	26-09-1996	US 6133050 A	17-10-2000
			CA 2214563 A1	26-09-1996
			CN 1179231 A ,B	15-04-1998
			EP 0815587 A1	07-01-1998
			JP 11508086 T	13-07-1999
			WO 9629726 A1	26-09-1996
			US 6537830 B1	25-03-2003
			US 5909042 A	01-06-1999
			US 5871853 A	16-02-1999
			US 6559469 B1	06-05-2003
			US 2003152813 A1	14-08-2003
US 4530879	A	23-07-1985	AT 34986 T	15-06-1988
			AU 565429 B2	17-09-1987
			AU 2522584 A	06-09-1984
			CA 1256060 A1	20-06-1989
			DE 3471937 D1	14-07-1988
			DK 130884 A	05-09-1984
			EP 0122008 A1	17-10-1984
			ES 8601219 A1	16-02-1986
			JP 1784446 C	31-08-1993
			JP 4077026 B	07-12-1992
			JP 59168061 A	21-09-1984
			KR 9303805 B1	13-05-1993